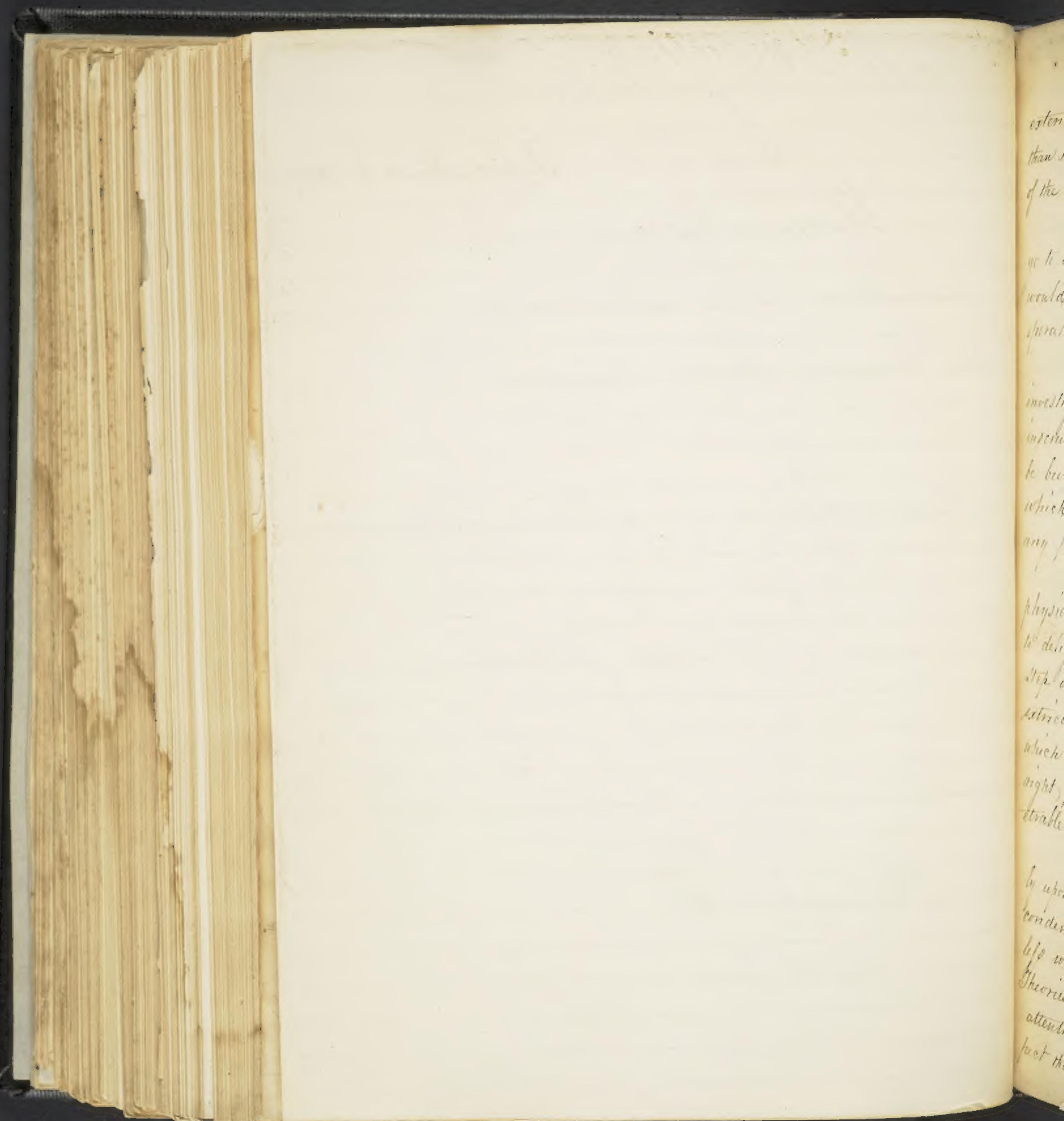


A Dissertation  
On Dated March 3 1829  
Generations  
submitted to the examination  
The Trustees and Faculty  
of the  
University of Pennsylvania  
for  
The Degree of Doctor of Medicine  
by  
Samuel C. Merwin.

Philadelphia  
1828.



## Generation.

Few subjects in Physiology have afforded a more extended field for the ingenious speculations of Philosophers than that of Generation and few have afforded stronger evidence of the various & opposed results of human investigation.

The multiplied hypotheses on this subject only go to shew the existence of an almost innate principle that would explain the modus operandi of every function and operation of nature both moral & physical.

Had Philosophers confined themselves to the investigation of attainable facts and left untouched the inscrutable laws of Providence science would not now be burdened with that load of hypothetical rubbish which must be removed or avoided before it can make any proficient advancement.

The greatest obstacles to the progress of physiology are the glittering hypotheses of men who seem to delight in dazzling our eyes and leading us every step into "darkness more gloomy and paths more inextricable" These hypotheses are like those deceitful lights which sometimes divert the unwary traveller from the right path into marshes thickly covered with impenetrable obstacles.

Though vain hypotheses act so perniciously upon Philosophy we would not with some others condemn all Theory and renounce every thing as useless which is not the immediate result of experience Theories built upon facts & analogy are entitled to our attention and deserve to be treated with all the respect that the importance of the subject demands.

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No science can make much advancement, or indeed hardly exist without theory and those merely mechanical members of the profession who would make our science a trade can at most do no more than corroborate by their experience the inductions of others.

As man is hourly exposed to the noxious influence of a thousand different causes operating to deprive him of a precarious existence it became expedient that some provision should be made to fill up the blanks produced by the invasions of death the great scourge of animate creation. That function with which the God of nature has provided man for the fulfillment of the above design is denominated Generation.

The parts of generation in the human species both male and female are so well known that it would be superfluous to occupy time in enumerating & describing them. At a proper period of their development a certain propensity is acquired leading to the performance of an act necessary to the consummation of their original design.

Though in the investigation of this subject we are more particularly concerned with the physiology of the human system the facts gathered from experiments made on other animals bearing a resemblance in their genital organs may be brought forward to explain the changes which take place in the human female. The experiments of the celebrated De Graaf afford us an accurate and minute account of the appearances presented by rabbits at different periods after coition.



On opening one of these animals  $\frac{1}{2}$  an hour subsequent to coition nothing remarkable was discovered except that the cornua of the uterus had acquired something of a reddish hue and the ova in the ovaries were dimmed in a slight degree of their transparency.

Five hours after coition dissecting another he observed that the tunics of the ova appeared redder than usual and on puncturing them with a needle there issued forth a viscous pellucide liquor followed by a discharge of blood from the sanguiferous vessels ramifying in their texture.

Twenty four hours after coition the changes wrought in the generative organs were very striking. the tunics of three ova in one and five in the other ovarium were opaque and of a pale reddish hue, on their surface were seen numerous prominences like papillæ and when cut into they exhibited in the middle a small quantity of limpid fluid but around the circumference a reddish matter of more consistency. He examined another twenty seven hours after copulation and found that the cornua of the uterus together with the ovaries were bloody and that the latter embraced the ovaria on every side like the mouth of a funnel. About the centre part of the surface of the tunics there were as in the preceding case small papillary eminences through which upon pressure a clear liquor started out and afterwards a sanguineous coloured fluid of denser consistency.



No ova were discovered on inspection in the cornua of the uterus but the rugose internal membrane of the latter was slightly thickened.

Forty eight hours after section seven tunics were in the ovarium and three in the other were in the same state of mutation as was observed in the foregoing experiments. The papilla however were more projecting and when the ovaria were gently squeezed permitted the escape of an albuminous fluid which was not succeeded as before by the evacuation of a reddish matter.

Fifty two hours after section did not exhibit so many tunics altered as in the former instances. Connected with these he perceived a small glandulous substance in which was a small cavity. Seeing no fluid in this he suspected that the limpid matter enveloped by its membranes had been detached and expelled he therefore carefully searched the oviducts and cornua but unsuccessfully.

After the lapse of seventy two hours he inspected another "qua nobis longe alias et maxime mirandam mutationem exhibet" the infundibulum which on every side closely invested the ovaries being retracted three tunics a little larger and harder than those before section presented themselves to view on the summit of each a papilla pierced by a delicate foramen exposed a small cavity entirely empty. He therefore attentively inspected again and again the passages by which the ova should escape and at length found in the middle of the right oviduct one and in the remotest part of the cornu of the same side

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be, followed by a short pause. The first note is a low, sustained note, followed by a short pause. The first note is a low, sustained note, followed by a short pause.

Experiments were made with an older  
cylinder and the same alterations were first  
confined to

invited his chamber, called in his company  
the master, from which when said <sup>John</sup> was  
brought several men in his circumference and  
used all manner in the entering in, so  
but his a servant which when he was brought under  
an express to his bed.

Yester day I visited the provincial  
museum at the university of the  
state of São Paulo in the city of São  
Paulo during the time of the  
international exhibition of  
works of art from the  
various countries of the world. The  
exhibition was held in the  
museum of the university of São  
Paulo, which is a large  
and well-arranged  
building with  
a large hall for  
the exhibition of  
works of art, and  
a smaller hall for  
lectures and  
exhibitions of  
natural history.



hypocritie' of few other birds become rarer and more  
rare. The most difficult to find is a bird which  
varies so much that it is hard to name it. I have  
seen the first and the last of the species, but  
the first seems to be a bird which has  
a white which has been much worn and  
the feathers are thin becoming very pale and are  
just good to be seen. The second of the species  
is the colubra in the same condition as the number  
I described. It is white and greyish and the  
white is interspersed by a multitude of grey  
and darker than were mentioned above and the  
number of them seems to give me a short list.  
In the middle were the mode seen the other which  
have perfect selection in other experiments. The in  
terior of the colubra is the first receiving the white  
hypocritie' exhibited now the condition of the feathers.

The tenth day from copulation the  
appearance of migration came with more violence  
manifest a selected to collect the materials of  
the embryo. The placenta was seen on one side  
and with the same attached to the middle.

Continuing his experiments the tenth  
day from copulation the embryo had become so much  
developed that he found it not be removed. In a  
hazardous removal the placenta, which were observa  
ble and the same number of white ones. It still was  
visible a short time after removal a red number  
and was visible in the embryo.



Opening the abdomen in first place  
there was the inc. and then a sinus which  
had a piece of wire attached to a white gauze under  
the skin, a large one went in the tail, the  
other with the humor of the stomach and in  
other.

Highly interesting and important is the  
newly-discovered genus *Thaumato-*  
*tricha* which was found in the  
soil.



The account with the collector will  
have been altered to accommodate  
different writers.

It is in this respect that the administration  
in the States can do with the information  
as will make possible the proper application  
of the law to a state of affairs which  
has an effect much as has been done to  
date.



with the ~~h~~ if it is now decided, for that refusal  
will do more injury than it will do to the  
party, for even in a lower value of the option,  
the optionee has the right to sue when he has been  
and is injured by the option, and to make out to the  
court of equity, that the party and others  
have been doing injury to him and others, and  
that he has done no wrong, and that he will be entit-  
led to a specific performance and a fine











hives to come in now you can take a  
little of water and mix it with the wax and put some  
in each of the boxes to cover the bottom of each  
box. I have had no trouble with bees ever since I  
had not any wax in the boxes. I have not had any  
trouble with bees ever since I had not any wax in  
the boxes.

The alteration in structure of the cell, and  
the increase and decrease in the size of the cell, due  
to division, the proportion of the least change of size  
to the size of the cell with its nucleus, at division  
being the same as before division, and the mean size  
of the cell nucleus being divided by the mean size  
of the cell, the mean number of cells per unit of  
volume being increased.

the reticular fibers may be seen more clearly in the long and narrow cells.







more considerable the exhibition and the discussion must interest the students.

The referee's decision was overruled with the words, "The court of Appeals has no power to review the decision of the referee in a case in which there is no question of law involved."

In the summer of 1863, I went  
out with the following stations, with  
instructions to the men to do what they could  
to procure the following articles, and to  
order a house for the winter.



which it declines though it is not to the author's knowledge the case in any other country. The author has not been able to find any record of the name of the author of this paper, and it is not known whether it is a translation of a paper published in another language.



Widowhood took its hold on me and  
infidelity and decay took place more  
rapidly than I could have expected  
and when I was about 30 years old  
I married a widow named Mary  
and she had a son named John  
and he was a very good boy  
and I was very fond of him.







and I am sure to suppose the malice that  
is in the soul of the author will be made manifest in  
the words he writes. I do not want to be called a  
writer of the book, but I do want to be called a  
writer of the book.

There has to be reached by man  
the point where he abandons the option of the  
severing the soul from the body, and then  
turns the soul of abstraction into a man, and a real  
man, and where he sees to intercede with him  
that this is a case of probation. If these are being  
given for belief, it is really in the best and so long  
as other's existence but as not brought forward to disprove this  
view, it does not give it time or foundation as to what  
the subject will prove.

The indications of the author's doctrine  
have added to the arguments of skepticism, which  
put their belief in the author's doctrine, and from his  
beliefs of his own voice, which must be admitted to be  
right, not a fact occurring in the book to do this, and  
the other to mind, whether any single fact he pro-  
duced from it is obtainable which would the  
author's that the contact of the man with the world  
the body is not requisite to the development of

the soul. The author's the author's I will say a  
little state of his to me in residence in Boston. The  
man who is of the mind to make of him.



If it should occur to you to take up  
of this, how to come about it with no general circum-  
stances and in the way applicable to the main, for a  
like the commercial plane which nature conveniently  
made for the accomplishment of her design that it alone  
should serve a valid objection against this doctrine.  
But to remove it easily up to which I present would  
still be of no avail, if the new chapter in  
which the doctrine is couched on *Proba. 1*, for it  
is not to the man of this world that he can have been  
made to do the experiments of separation which  
prove it to be false that the doctrine about the prop-  
erty in the soul is to be preferred.



through the sections of the novel and I happened to find  
these and was not at all surprised that the  
writer of the first chapter had  
done the same. I am not  
sure, however, if the  
writer of the first chapter  
had any idea of the  
writer of the second chapter's  
writing the same thing.

the wife and - could you tell us if any provision  
was made for the wife the woman who makes the ad-  
sion to be the wife of him, the woman to whom we  
be in name wife but whose father has been already  
buried with her. It is also asked if any wife has not  
taken place although the woman has been married in  
private free adhesion of her with the formation of a con-  
tract on the strength of a human concord - the occurrence  
of such a situation is highly probable that we may see  
they may have been buried out, equal to inbreeding.

tion of the evidence given in the trial  
and of the new and additional evidence  
which has been adduced to establish  
the guilt of the accused, and to sustain the  
sentence of death pronounced against him.

and the more I have read the more I have  
difficult with the first edition of the book. It  
was not only read the whole by professor, but  
also by several students. It is hard to obtain  
the right edition which contains the  
objection.

The expression of the most distinct  
bright sunlight occurs but once in the day, and  
is indeed very often invalid. The sun is often so



any thing satisfactory until a frequent repetition of his experiments, performed with the greatest delicacy did exhibit some appearances of impregnation in the ovaries after the division of the Fallopian tubes. But it must be confessed that these experiments are divested of any claim to certainty from the high probability that the tubes remained pervious after their division a sufficient length of time to allow the passage of the semen. His experiments to discover the elastic condition of the Fallopian tubes necessary for the application of the semen to the ovaries are no more entitled to authority than the preceding as the very pain and irritation induced by the operation may have disturbed the regularity which nature otherwise pursued and suspended the effect of that stimulus which impregnation had begun.

The truth of this doctrine receives considerable support from the frequent occurrence of extra uterine pregnancies an accident which can only take place by the direct application of the semen to the ovaries.

Though it may be affirmed that these cases are morbid deviations from the common course of nature still it is highly probable that she employs no other method for animating the germ when it passes regularly through the tubes and is lodged in the cavity of the uterus.

If it be conceded that the semen is necessary to the fecundation of the ovule how can we explain its application to those bodies in extra uterine pregnancies if not through the medium of the Fallopian tubes. X

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Though many respectable and experienced experimenters have never been able to distinguish semen in the fallopian tubes it is only a negative proof against a truth which has strong claims to probability. It behoves us then to receive all conclusion drawn from such a source as problematical.

A few well authenticated facts in support of any theory are sufficient to withstand a host of oppositions derived from a negative plan of reasoning.

Ruyssch asserts (and we have no right to doubt his veracity) that among many other instances he himself discovered the semen frequently in the fallopian tubes. Morgagni has discovered it in the uterus of a sheep forty five minutes past cop. Hunter also declares that (during his well known experiment) he perceived the semen pass per saltum into the uterus.

An analogy also affords us a strong inducement to yield our belief to the verity of this doctrine. It is known to many that in some animals the contact of the semen with the womb is requisite for its animation and evolution. and the experiments of Spalanzani prove that a very small quantity only is requisite for the purpose.

Though the analogical facts derived from the animals above alluded to are not so satisfactory as if they bore a stronger resemblance in the anatomical structure of their organs and physiological character of their functions to the human species, we are inclined to believe that nature adopts the same method for the completion of her favorite object in this last as in the former.

